

**REMARKS**

Claims 1, 3, 4, and 6-20 are currently pending in the subject application and are presently under consideration. Claims 8, 16 and 18 have been currently amended as shown on pages 2-7 of the Reply.

In addition, applicants' representative thanks Examiner Truong for the teleconference of May 24, 2007. The merits of the subject claims *vis-à-vis* the cited references were discussed.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claims 1, 3, 4, 7, 19, and 20 Under 35 U.S.C. §103(a)**

Claims 1, 3, 4, 7, 19, and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sheldon, *et al.* (U.S. 2003/0081125) in view of Flowers, *et al.* (U.S. 6,957,348) and further in view of Justice, Jr. *et al.* (U.S. 6,418,469). This rejection should be withdrawn for at least the following reasons. Sheldon, *et al.*, Flowers, *et al.* and Justice, Jr. *et al.* individually or in combination, do not teach or suggest each and every element as set forth in the subject claims.

To reject claims in an application under §103, an examiner must show an unrebutted *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, *the prior art reference (or references when combined) must teach or suggest all the claim limitations*. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicants' disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The subject claims generally relates to facilitating network diagnostics and self-healing of network connectivity problem(s). Accordingly, a diagnostic engine includes protocol state compressor(s) adapted to analyze the subsets of data thus enabling the diagnostic engine to detect problems and attempt to diagnose potential sources(s) of the problem(s). To this end, independent claim 1 (and similarly independent claims 4, 19 and 20) recites a protocol diagnostic system that *upon occurrence of a network connectivity problem, stores information associated*

*with additional protocols and upon correction of the network problem, deletes information associated with selected protocols from the at least one lexical rule set.* The cited documents, individually or in combination, do not teach or suggest such novel aspects.

Sheldon, *et al.* discloses a diagnostic node that interfaces with a video network to receive audio visual data associated with one or more video devices of the video network. The diagnostic node operates as a transparent pass through/proxy for a video device or as a regular terminating route in order to evaluate audio visual data and determine performance statistics associated with a predetermined video device that is proximate the diagnostic node. (*See page 1, paragraph [0008]*). However, as stated on page 5 of the Office Action dated March 14, 2007 does not teach or suggest a lexical rule set as recited in the subject independent claims.

Flowers, *et al.* discloses interoperability of network security systems. A vulnerability detection system (VDS) gathers information about a network and processes that information to determine vulnerabilities. The information is gathered and processed based on a set of rules stored in the VDS. An intrusion detection system (IDS) monitors network traffic for signs of malicious activity based on a set of rules. The rules used by the VDS and IDS are easily formed and therefore an end user can easily define and construct rules beyond any that are defined by the VDS/IDS provider. (*See col. 2, lines 21-60*). However, as stated on page 6 of the Office Action dated March 14, 2007 does not teach or suggest storing information associated with additional protocols upon occurrence of network connectivity problems and selectively deleting such information upon resolving the problem.

Justice, Jr. *et al.*, the third document used for this rejection, fails to make up for this deficiency of Sheldon, *et al.* and Flowers, *et al.* Justice, Jr. *et al.* relates to a management system which maintains an event list that keeps track of network conditions by polling network devices or receiving messages from network devices. An event list is automatically updated (entries added or removed) by the management system as conditions appear or become resolved (*See Justice, Jr. et al. Abstract*). However, on page 6 of the subject Office Action, it is erroneously contended that the management system of Justice, Jr. *et al.* stores data related to additional protocols and upon resolution of the problem deletes information related to selected protocols. Rather, the management system recited in Justice, Jr. *et al.* stores variables to indicate status of a particular action, a data source column that specifies a particular protocol source of the action and a Check Type column that indicates a particular type of checking that is required (*See*

Justice, Jr. *et al.* col.4 lines 35-47). However, nowhere Justice, Jr. *et al.* does teach or suggest storing information related to *additional* protocols upon detecting a network error. For example, it does not teach storing information related to additional devices upon detecting problems with network devices and therefore would not be able to locate a source of a problem like the system recited in applicants' claimed subject matter.

In contrast, applicants' claimed subject matter, upon determining that a network connectivity problem has potentially occurred (*e.g.*, from the protocol state compressor(s)), can store information associated with *additional* protocol(s) to be monitored in lexical rule set(s). Similarly, upon determining that a network connectivity problem has been corrected (*e.g.*, by the diagnostics engine and/or externally), the diagnostics engine can delete information associated with selected protocol(s) from the lexical rule set(s). For example, if a protocol specific inconsistency is detected at an application level protocol state, the diagnostic engine can monitor/store data associated with one or more additional protocol states (*e.g.*, session layer, transport layer, network layer *etc.*) Storing information related to additional protocol states facilitates better analysis of a problem condition on a network by locating the source of the problem which. For example, a single user error message such as "The network path was not found" can be associated with a plurality of network connectivity issues. By storing information related to additional protocols or by creating additional protocol state compressors, the claimed subject matter facilitates diagnosis of the condition that caused the error message (See applicants' specification page 1 lines 13-14). Additionally, by selectively adding and/or deleting information associated with protocol(s) stored in the lexical rule set(s), the impact of the protocol diagnostic system on a computer system (*e.g.*, client system) can be minimized. (See applicants' specification page 8, lines 17-31).

In view of at least the aforementioned, it is clear that Sheldon *et al.*, Flowers *et al.*, and Justice, Jr. *et al.* fail to teach or suggest all aspects recited in independent claims 1, 4, 19, 20 and all claims that depend there from. Hence, this rejection should be withdrawn.

## **II. Rejection of Claim 6 Under 35 U.S.C. §103(a)**

Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sheldon-Flowers-Justice, Jr. *et al.* in view of Bereiter, *et al.* (U.S. 6,357,017). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Sheldon *et al.*, Flowers *et al.*, Justice,

Jr. *et al.* and Bereiter *et al.*, individually or in combination, do not teach or suggest each and every element set forth in the subject claims. In particular, Bereiter *et al.* relates to automated technical support in a client-server network and does not make up for the aforementioned deficiencies of Sheldon *et al.*, Flowers *et al.*, and Justice, Jr. *et al.* with respect to independent claim 4 (which claim 6 depends from). Thus, the subject invention as recited in claim 6 is not obvious over the combination of Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* and Bereiter *et al.*, and therefore, withdrawal of this rejection is requested.

### **III. Rejection of Claims 8-14 Under 35 U.S.C. §103(a)**

Claims 8-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sheldon-Flowers-Justice in view of Silva, *et al.* (U.S. 6,360,268). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* and Silva, *et al.* individually or in combination, do not teach or suggest all elements set forth in the subject claims.

The subject claims relate to a system and methodology to facilitate network diagnostics and self-healing of network connectivity problem(s). More particularly, independent claim 8 recites a computer network diagnostic system, that *upon occurrence of a network connectivity problem, creates one or more additional protocol state compressors, and upon correction of the network problem, selectively deletes the additional protocol state compressors.* Similarly, claim 13 recites *upon occurrence of a network connectivity problem, information associated with additional protocols is stored, and upon correction of the network problem, the information associated with the additional protocols is deleted.* As stated *supra*, Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* do not teach or suggest such aspects. Silva, *et al.* relates to a distributed automatic testing environment but fails to make up for the deficiencies of Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* with respect to independent claims 8, 13. Therefore, this rejection should be withdrawn with respect to independent claims 8, 13 and all the claims that depend there from.

### **IV. Rejection of Claim 15 Under 35 U.S.C. §103(a)**

Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sheldon-Flowers-Justice-Silva in view of Morgan, *et al.* (U.S. 2002/0144187). It is respectfully

submitted that this rejection should be withdrawn for the following reasons. Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* and Silva, *et al.* individually or in combination, do not teach or suggest each and every element set forth in the subject claims. Morgan, *et al.* does not make up for such deficiencies.

In particular, it is noted that the filing date of Morgan, *et al.* is January 24, 2001 while the filing date of the subject application is January 3, 2002. It is also noted that the subject matter of Morgan, *et al.* and the claimed invention were, at the time the invention was made, subject to an obligation of assignment to Microsoft Corporation. Accordingly, a rejection under 35 U.S.C. §103(a) would not be proper pursuant to the provisions of 35 U.S.C. §103(c). In view of at least the foregoing, this rejection is moot and should be withdrawn.

#### V. Rejection of Claim 16 Under 35 U.S.C. §103(a)

Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sheldon-Flowers-Justice-Silva in view of Korkosz, *et al.* (U.S. 6,781,513). This rejection should be withdrawn for at least the following reasons. Sheldon *et al.*, Flowers *et al.*, Justice, Jr. *et al.* and Silva, *et al.* individually or in combination, do not teach or suggest each and every element set forth in the subject claims. Korkosz, *et al.* does not make up for such deficiencies.

Korkosz, *et al.* relates to a telemeter for telemetry of diagnostic messages from a mobile asset to a remote station comprising a processor coupled to the output of one or more condition sensors. At the cited portion, Korkosz, *et al.* teaches a bit error rate p which is the error rate that a ground based receiver will experience on bit-by-bit demodulation of an ISM transmission at the ISM modem design rate (*See Korkosz, et al.col.4 lines 62-64*). Further, Korkosz, *et al.* teaches links that are operated at a variable data rate wherein both ends of the link are configured to observe the received error rates, calculated over groups of known bits or by observing various check sum failure rates and increase or decrease their signaling rates accordingly. However, nowhere does Korkosz, *et al.* teach or suggest *calculating a probability of utility of at least one of one or more potential system problems or one or more corrective actions based at least in part upon the potential sources of the problem and accessed historical information; and, consecutively initiating corrective action based at least in part upon the probability of utility* as recited in claim 16. In determining the utility of the corrective actions, the claimed subject

matter facilitates a self-healing network wherein corrective actions having higher calculated probability of utility are performed before those having lower calculated probability of utility.

In view of at least the aforementioned, it is clear that none of the cited documents teach or suggest all aspects of the subject claim. Therefore, this rejection should be withdrawn.

**VI. Rejection of Claims 17 and 18 Under 35 U.S.C. §103(a)**

Claims 17 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bereiter, *et al.* (U.S. 6,357,017) in view of Morgan, *et al.* in view of Flowers, *et al.* and further in view of Justice, Jr., *et al.* It is respectfully submitted that this rejection should be withdrawn for the following reasons. The cited documents alone or in combination fail to teach or suggest all aspects recited in the subject claims.

Bereiter, *et al.* relates to automated technical support in a client/server network wherein data is gathered from a client and transmitted to a diagnostic server to analyze the current state of the client machine and thereby enable a user to troubleshoot the client machine. However, alone or in combination with Sheldon *et al.*, Flowers *et al.*, and Justice, Jr. *et al.* it fails to teach or suggest all elements set forth in the subject claims. Morgan, *et al.* does not make up for such deficiencies.

In particular, it is noted that the filing date of Morgan, *et al.* is January 24, 2001 while the filing date of the subject application is January 3, 2002. It is also noted that the subject matter of Morgan, *et al.* and the claimed invention were, at the time the invention was made, subject to an obligation of assignment to Microsoft Corporation. Accordingly, a rejection under 35 U.S.C. §103(a) would not be proper pursuant to the provisions of 35 U.S.C. §103(c). In view of at least the foregoing, this rejection is moot and should be withdrawn.

**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP300US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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